

AZB ARIZONA BUSINESS

ARIZONA STATE UNIVERSITY'S MONTHLY NEWSLETTER ON THE ARIZONA ECONOMY

Measuring success in Arizona's public schools

Grade school and high school students in Arizona generally score at or slightly above the national norm on achievement tests, but the state's dropout rate is reported to be among the highest in the nation. Due to inconsistency and incomparability in measurements, none of several dropout measures accurately report the relationship of Arizona's dropout rate to other states or the national average.

Public primary, secondary, and postsecondary educational institutions are increasingly under pressure to demonstrate quality and effectiveness on a variety of measures. The call for accountability of educational institutions has grown louder as the growing base of educated taxpayers has learned to scrutinize governmental investments in all levels of education. From assessing student learning and instructional processes to the overall effectiveness of our schools, public educational institutions are dedicating more time and financial resources to reporting progress toward achievement goals.

At the center of the assessment and accountability issue is the quality and application of the information being used to measure success among states, school districts, and individual schools. Enrollment, graduation, and achievement of students have become baseline statistics with which to measure success. Interpreting these statistics requires sifting through a quagmire of data collected by the state and federal governments that is based on dissimilar variable definitions, sample populations, and data collection techniques. Although efforts are being made to standardize the definition of key variables and what and how information is obtained, the comparability of data between and within states still is compromised due to significant differences in methodology and data collected.

DROPOUT RATES

The effectiveness of our elementary and secondary school systems has been tied, in part, to the proportion of students attaining a high school diploma. The data that are used, the reliability and validity of the sources, and how Arizona school districts have defined "dropouts" each influence the resulting dropout ratios, making comparability difficult.

Dropout rates in Arizona are calculated from data coming from three primary sources: the Dropout Rate Study and Graduation Rate Study of Arizona

schools produced by the Arizona Department of Education (ADE), the Common Core of Data Survey released by the U.S. Department of Education's National Center for Education Statistics (NCES), and the U.S. Census Bureau's Decennial Census and Current Population Survey (CPS). Each of the studies is designed to collect different types of information and all are used to understand the dropout picture in Arizona.

Accurately describing the dropout experience in Arizona is further complicated by problems with data validity and reliability. Validity of the data is dependent on a school's ability to track students who enter or leave the school over time, and to correctly record the collected information. School districts often lack the resources to accurately track students moving from, to, or within the system. Tracking students under the system used until now was difficult at best. The Arizona Department of Education has begun implementing improvements. Starting with the 2002-03 school year, schools were required to adopt new procedures and update their tracking systems using software compatible with the ADE.

Arizona statutes require that schools request an incoming student's records from the school last attended. While schools are required to contact new students' previous schools, transcripts may not always be forthcoming. Additionally, there may be higher conformity to requesting and receiving record transfers within the state, in order to stay in compliance with the statutes, than from outside Arizona. Students whose families move to other states, for example, and students who leave the public school system to attend a charter school may not have been captured in a tracking system that has previously relied on self-reporting by students, parents, and districts. Statutes also require that students changing

High school dropout rates may be overstated

INSIDE

High School Dropout Rates	1
Business Conditions Index: August.....	4
Leading Index: August	5
Building Permits: Second Quarter	6
Arizona Economic Indicators	8

CENTER FOR BUSINESS RESEARCH



College of Business ARIZONA STATE UNIVERSITY

schools to notify the new school's principal if the student previously attended another Arizona school.

Students whose current status is not known are coded as "status unknown" students *and are included in the dropout rate*. Students whose status is unknown may potentially be double-counted if they attend a different school in Arizona. A school's inability to track these students may artificially inflate dropout rates.

In addition to varying reporting requirements, student outcome codes may be interpreted differently by school district, resulting in inconsistent data entry and inaccurate information in school databases. This also impacts the validity and reliability of the data collected by ADE and the statistics produced from these data.

Arizona Department of Education

Each year, the Arizona Department of Education requires that districts submit a

year-end enrollment worksheet reporting enrollments, withdrawals, re-entries, year-end status, and summer activity of students. These data are used by the ADE to produce their graduation rate and dropout rate studies.

The ADE annually collects data for its Dropout Rate Study from all Arizona public school districts and charter schools that provide instruction to students in grades seven through 12. The study measures the proportion of students who drop out of school during a 12-month period, which begins the first day of summer recess and ends the last day of school. ADE's Graduation Rate Study tracks a cohort of students starting in the fall of their freshman year whose enrollment and transfer activities are followed for the succeeding four years.

Three common methods of measuring school dropouts are used in describing dropout ratios: annual dropout rate, four-year completion/dropout rate, and the attrition

rate (see Table 1.) The annual dropout rates measure the percentage of students who drop out of school during one school year. The annual dropout rate often is preferred by schools because it requires only one year of data, and it can be calculated by school, district, and grade level. ADE lists the annual dropout rate during the 1999-2000 school year for all students in grades seven through 12 at 8.3 percent. The annual dropout rate is calculated by dividing the number of students leaving school during the school year, not known to have been enrolled in another school, by the total number of students enrolled for that year.

Better measures of school dropouts follow students over the course of their high school education such as the four-year completion/dropout rate. The completion/dropout rate measures the percentage of students from a class of ninth graders who graduate or are still enrolled at the time their class graduates while the longitudinal dropout rate measures

**TABLE 1
COMMON METHODS OF MEASURING SCHOOL DROPOUTS**

	<i>Annual Dropout Rate</i>	<i>4-Year Completion/Dropout Rate</i>	<i>Attrition Rate</i>
Description	<ul style="list-style-type: none"> Measures the percentage of students who drop out of school during one school year. 	<ul style="list-style-type: none"> Measures the percentage of students from a class of ninth graders who graduate or are still enrolled at the time their class graduates. Measures the percentage of students from a class of ninth graders who drop out before completing high school. 	<ul style="list-style-type: none"> Estimates the percentage of students from a class of ninth graders not graduating from grade 12 four years later for whatever reason.
Calculation	<ul style="list-style-type: none"> Divides the number of students who leave school during a school year by the total number of students enrolled that year. 	<ul style="list-style-type: none"> Divides the number of students who leave school by the end of grade 12, or the number who complete school, by the total number of students in the original ninth grade class. Students who transfer in over the years are added to the class; students who transfer out are subtracted. 	<ul style="list-style-type: none"> Subtract grade 12 enrollment — adjusted for the percentage change in enrollment in grades 9-12 — from grade 9 enrollment four years earlier, then divide by the grade 9 enrollment.
Advantages	<ul style="list-style-type: none"> Measure of annual performance. Requires only one year of data. Can be calculated for any school or district with students in any of the grades covered. Can be disaggregated by grade level. 	<ul style="list-style-type: none"> Districts have more time to encourage dropouts to return to school before being held accountable. Four-year rates do not fluctuate as much over time as annual rates. The completion/student-status rate is a more positive indicator than the dropout rate, measuring school success rather than failure. 	<ul style="list-style-type: none"> Provides a simple measure of school leavers when aggregate enrollment numbers are the only data available.
Disadvantages	<ul style="list-style-type: none"> Looks at only one year of data. 	<ul style="list-style-type: none"> Program improvements may not be reflected for several years. The graduation rate does not include students who left school and earned a GED. Does not produce a dropout rate by grade. 	<ul style="list-style-type: none"> Produces the highest rate of any method. Does not distinguish attrition resulting from dropping out from that resulting from grade-level retentions, death, early graduation, etc. Highly simplistic method using estimated aggregate data. Cannot be used in accountability systems because it is an estimate.
Arizona*	<ul style="list-style-type: none"> 8.3% of all students in grades 7-12 (Source: Arizona Department of Education, Annual Dropout Rate Study, 1999-2000). 	<ul style="list-style-type: none"> 71% of cohort class of 2000 graduated. 21.8% of cohort class of 2000 dropped out. 6.9% of cohort class of 2000 was still enrolled. 0.3% of cohort class of 2000 received a GED. (Source: Arizona Department of Education, 4-Year Graduation Rate Study, Cohort Class of 2000). 	<ul style="list-style-type: none"> 31.8% of all high school students in grades 9-12 (Source: Arizona Minority Education Policy Analysis Center, Stemming the Tide of Dropouts: An Action Agenda for Arizona, May 2002).

*Dropout rates from the Four-Year Graduation Rate Study are specific to the cohort class of 2000 and are not comparable to the annual dropout rates calculated in the Annual Dropout Rate Study. Source: Adapted from the Texas Legislative Budget Board, "Dropout Study: A Report to the 77th Legislature," December 2000.

those who drop out before completing high school. These four-year rates do not fluctuate as much overtime as the annual rates, and they allow districts time to encourage dropouts to return to school before being held accountable. ADE's four-year cohort study reported that 71 percent of the cohort class of 2000 had graduated while 21.8 percent dropped out. Of the remainder, 6.9 percent were still enrolled in school, and 0.3 percent received a General Education Development (GED) high school equivalency diploma by the end of the 2000 school year. Longitudinal rates also have their disadvantages. The effects of retention programs may not be visible for several years. Additionally, the measure cannot produce dropout statistics by grade.

Attrition rates provide a simple measure of students who leave school. Because attrition rates do not separate out those students who dropped out from those who were held back to repeat a grade, died, or graduated early, the outcome is especially high. Producing the highest rate among the methods, attrition rates estimate the percentage of students from a class of ninth graders that were not enrolled in 12th grade four years later regardless of the reason. The Arizona Minority Education Policy Analysis Center reported attrition for all high school students in grades nine through 12 at 31.8 percent for the class of 2002.

Other Sources

Nationally, the Department of Education's National Center for Education Statistics annually collects public school dropout information on those 16 through 24 years old through its Common Core of Data Survey and the education supplement of the U.S. Census Bureau's Current Population Survey. The NCES employs a number of methods to determine the proportion of students who do not attain a high school diploma on a state-by-state basis. It reports what we designated as "event" and "status" dropout rates based upon the Current Population Survey.

The data provided by the CPS are ill-suited for analysis at state or lower levels. While the CPS provides accurate national and regional information about dropouts, sampling error is very large at state or smaller areas of geography. Further, its educational statistics are restricted to a population between 16 and 24 years old.

The status dropout rate describes the proportion of those 16 to 24 who have not completed high school regardless of where

they dropped out from school. In states like Arizona that experience substantial in-migration, a sizeable proportion of those residents age 16 to 24 who did not complete high school may have dropped out of school in another state or nation.

Event dropout rates look at whether respondents dropped out over the past twelve months. The number of individuals age 15 through 24 who left private or public school since being enrolled in grades 10-12 in October of the prior year is divided by the total number of individuals who were enrolled in the same grades at the same time. Event rates tend to produce lower numbers than other methods of calculating dropout rates. A similar rate is calculated from the Common Core of Data.

Coming from the same data source, the CPS event dropout rates and status dropout rates share some of the same limitations. Regional and national rates may be computed

accurately for each year, while state level rates typically are computed as a three-year average because of the large standard errors in the CPS — but even after combining years, the error still is high. Interpretation of the CPS event dropout rate is limited since it does not separate individuals who have dropped out and remained in Arizona from those who dropped out elsewhere and then moved to Arizona.

Data Comparability

Differing methodologies, variable definitions, and population samples contribute, in part, to incompatibility issues between the major sources of education data. As the primary federal agency responsible for collecting, analyzing, and reporting educational statistics in the nation, the NCES attempts to provide comparable data at the state level through its Common Core of Data (CCD) Survey. For the 1998-99 school

FIGURE I
AMERICAN COLLEGE TESTING (ACT) COMPOSITE SCORES

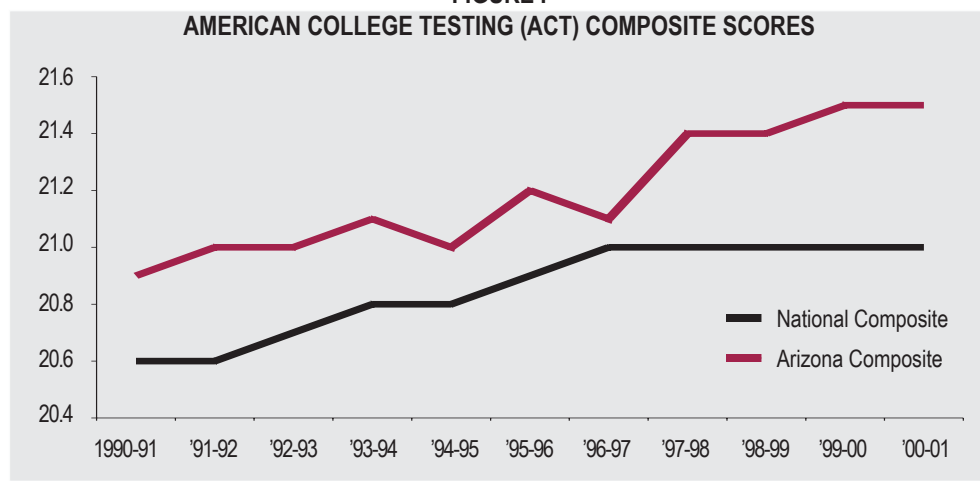
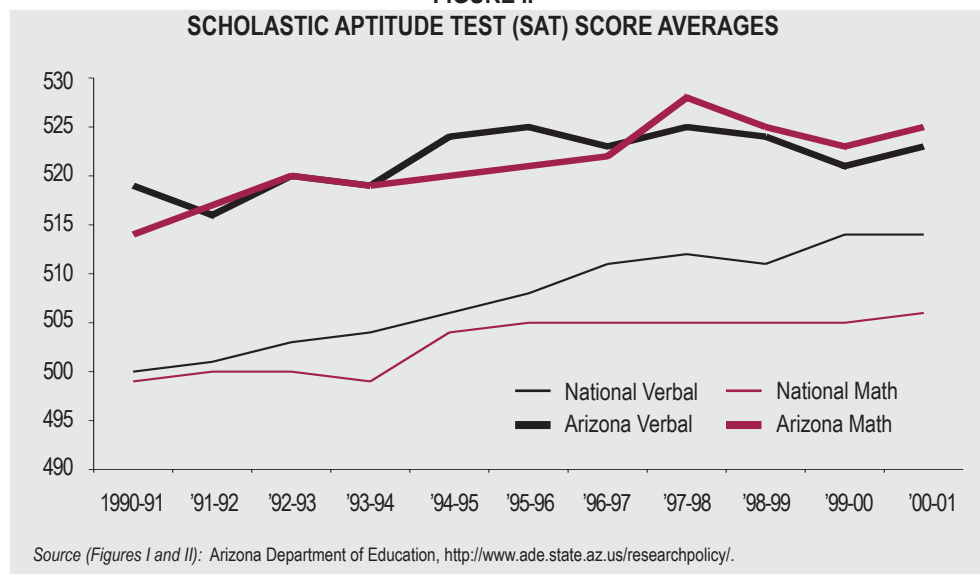


FIGURE II
SCHOLASTIC APTITUDE TEST (SAT) SCORE AVERAGES



Source (Figures I and II): Arizona Department of Education, <http://www.ade.state.az.us/researchpolicy/>.

year, 37 of 48 states reporting, including Arizona, were in conformance with the CCD standards.

Key methodological differences have existed in previous years between the NCES and the Arizona Department of Education making the statistics non-comparable. In previous years, Arizona did not meet all of the NCES guidelines. Arizona had defined their reporting period starting in June rather than starting in October as required by the NCES.

Arizona accounts for GED students in the manner applied by the NCES — students who leave school in order to obtain a GED are considered dropouts. When taking the GED test, students are asked to fill in the appropriate NCES code for their school district. Information about GED recipients, such as those who passed the test, is available to the Arizona Department of Education from the NCES.

ACHIEVEMENT AND ATTAINMENT

Educational attainment in Arizona schools is assessed by a number of methods. Schools count the number of high school graduates and universities tally the number of college degree recipients. Other measures such as

achievement tests are used to determine general competency levels and achievement relative to other peers.

The Stanford Achievement Test, Scholastic Aptitude Test (SAT), and the American College Test (ACT) are measures of educational achievement. Administered to grades two to 12, the Stanford test measures proficiency in the areas of reading, mathematics, and language. In 2001, Arizona stopped using the Stanford test and began using AIMS (Arizona Instrument to Measure Standards Test) for grades 10 to 12.

Scores are reflected as a national individual percentile rank (For example, a score of 55 is 5 points above the national average of 50). The Stanford percentile rank shows where a student, a school, a district or state ranks in comparison to the national average.

Arizona students, relative to their peers nationwide, scored highest on the mathematics portion of the Stanford Test, with 2002 scores ranging by grade mostly from 56 to 62, though the sixth-grade figure was 65. Reading scores generally were slightly above average, varying from 50 to 57 through grade 8, but the ninth-grade percentile was only 43. Ninth graders scored similarly low in prior years. Language scores varied

widely by grade — from 42 to 57 — with the median of all grades only 49.

Scores achieved on the SAT (see Figure I) and ACT (see Figure II) college preparatory exams improved marginally between 1990 and 2000. Compared to the national average, Arizona scored approximately 15 to 20 points higher in verbal and 10 to 15 points higher in math sections of the SAT throughout the decade. Arizona students also fared slightly better than the nation on the ACT.

The decennial census provides the broadest measure of educational attainment. Unfortunately, the 2000 data currently are limited to all adults age 25 or older, thus do not provide insight on the attainment of young adults, particularly those educated in Arizona. The educational attainment of Arizona's 25 or older population in 2000 was near the national average and the median of all states, a less favorable comparison than in 1990. See the September 2002 issue of *AZB/Arizona Business* for more detail.

— Katrina S. Walls
Research Analyst

Arizona Business Conditions Index rises in August

The seasonally adjusted Arizona Business Conditions Index rose to 51.1 in August. An index reading of over 50 indicates that the local economy is growing, while a reading below 50 suggests a slowdown in the overall level of economic activity in the near term.

ANALYSIS

After dropping below the critical 50-mark last month, the Index rose to 51.1 in August. The hesitation in the business community in July was likely initiated by the bad news such as WorldCom's accounting problems and the downward revision in GDP. While it is pleasant to see the Arizona Business Conditions Index rise above 50 once again, the 51.1 level attained does not suggest an economic boom in the near future. Rather, it suggests that growth is returning to Arizona, but at a slower pace than was seen in the late 1990s.

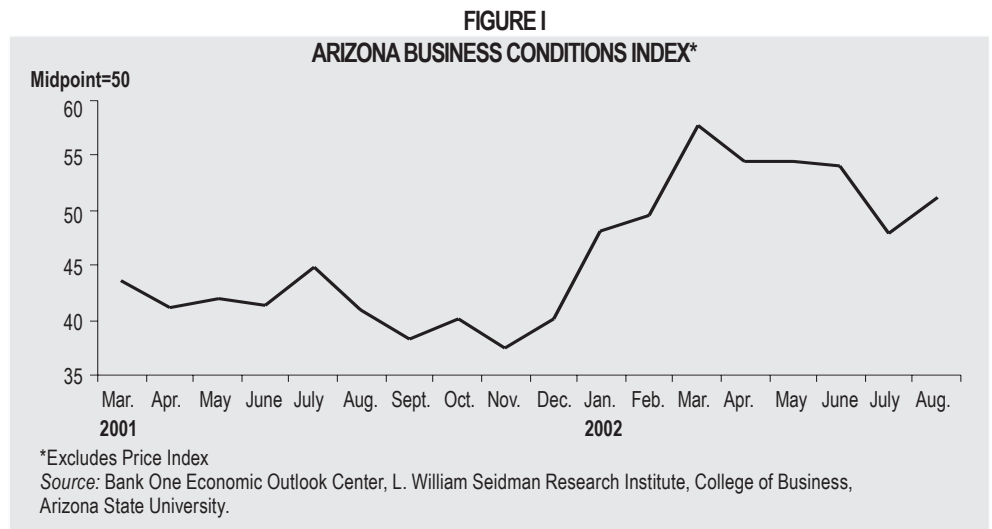
Looking at the components of the overall index, there is good news and bad. On the good side, The New Orders sub-index rose to 50.8 and the Production sub-index to 53.7.

Unfortunately, the Employment sub-index, which is of most interest to job seekers, fell by 6.1 points to 41.4. This is below the critical 50-mark that signals job growth returning to the state.

The Price Index rose slightly from 55.8 to 57.7 in August. This indicates upward pressure on prices and continues a trend

that began in April 2002. The last time the Price Index was above the current level was in February 2001.

— Dawn McLaren
Research Economist
Bank One Economic Outlook Center



Arizona Leading Index remains flat in August

The Bank One Arizona Index of Leading Economic Indicators was flat in August at 117.2, the same as in the previous month, and 5.1 percent above the August 2001 number of 111.5 (1987 = 100).

The inflation-adjusted value of the M2 money supply, new orders, production, delivery times and materials inventories were positive. The inflation-adjusted value of Maricopa County residential building permits, employment from the Business Conditions survey, sensitive materials prices and hours worked in manufacturing were negative.

While the index was flat this month, the turnaround in the components from the Business Conditions Index was a positive. The overall BCI was down significantly last month, and if that trend had continued it would have raised serious doubts about the sustainability of the recovery.

It appears that the current biggest risk to the economic recovery is the possibility of war with Iraq. The economic consequences would likely be negative. In the short run, oil prices would rise significantly, which would be an immediate drag on the economy. There would be increased pressure on the dollar because of the worsening trade balance and the likely flight of some foreign capital because of increased risk. The increase in oil prices also would be a drag on the economies of our trading partners, raising the possibility of the world economy slipping back into recession.

The increased uncertainty resulting from the risks of war would have a negative impact on both business and consumer spending. Business spending already is lagging behind where it needs to be in order to contribute to the recovery. There is a reluctance to spend because of the accounting scandals and the down stock market; a war would only exacerbate the problem. Perhaps more significantly, consumers might decide to stop spending in the face of continued uncertainty — which would guarantee a descent back into recession.

War often is said to be a positive for the economy based largely on our experience of the second World War. The economy had serious excess productive capacity and a large number of unemployed people. The war was large enough and lasted long enough that all the excess capacity and

excess workers were absorbed by the war effort. A conflict with Iraq might absorb some workers as even more reservists are called to active duty, but the numbers would be relatively small. The war would likely result in the destruction of more materiel than was the case in Afghanistan, but the subsequent increase in employment would be minimal. Replacement of lost tanks, trucks and planes along with bombs and bullets would ensure continued jobs for workers in defense industries, and perhaps some increased employment, but would not require the conversion of civilian production capacity to military use.

Arizona produces some ordnance, sup-

plies and helicopters, but the employment impact here is likely to be slight. Tourism would be negatively affected, with foreign and domestic travel discouraged amid the uncertainty of global unrest.

Our national leaders must weigh the benefits of the reduced threat of terrorism against the cost in lives and damage to the economy that would result from an Iraq war. The most that economic analysis can do is project a realistic idea of what those costs are likely to be.

— Tracy Clark

Associate Director

Bank One Economic Outlook Center

TABLE 1

NET CONTRIBUTION OF INDIVIDUAL COMPONENTS TO THE ARIZONA INDEX OF LEADING ECONOMIC INDICATORS

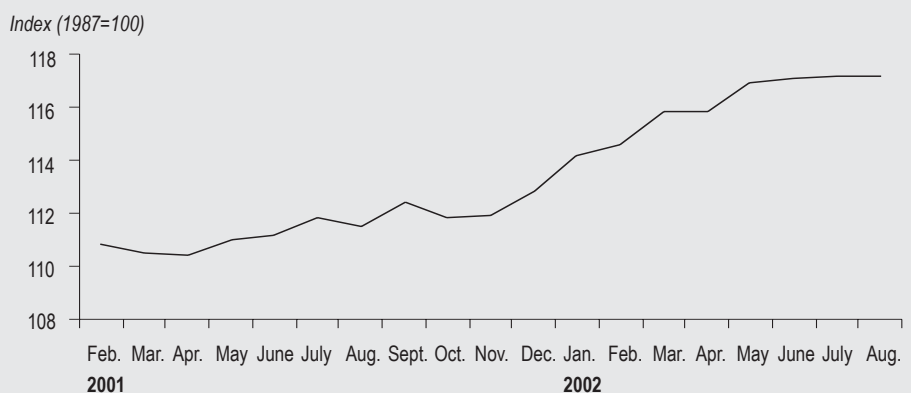
	Net Contribution*			
	May	June	July	August
Delivery Time*	0.00	0.03	0.01	0.09
Inventory Levels*	0.01	0.05	-0.02	0.03
New Orders*	-0.05	0.04	-0.25	0.16
Production*	-0.05	-0.08	-0.20	0.15
Employment*	0.23	-0.06	0.00	-0.20
Residential Building Permits	0.14	-0.21	0.22	-0.23
Average Workweek, Manufacturing	-0.04	0.04	-0.07	-0.14
Money Supply	0.62	0.26	0.46	0.31
Change in Sensitive Materials Prices	0.09	0.10	-0.01	-0.16

* The net contribution of each component is calculated by multiplying the monthly percent change in its index by its relative importance.

* Based on indicators from the Purchasing Management Association of Arizona, Purchasing Management Association of Southern Arizona and the Northern Arizona Group.

FIGURE I

ARIZONA INDEX OF LEADING ECONOMIC INDICATORS



Source (Table 1 and Figure I): Bank One Economic Outlook Center, L. William Seidman Research Institute, College of Business, Arizona State University.

Building permit activity increases in second quarter 2002

Over the first half of 2002, the Arizona construction industry has made steady progress from \$2.5 billion in total building activity for fourth quarter 2001 to \$2.8 billion for first quarter 2002 to the current \$3.5 billion, comparable to a year ago. The performance has been driven by the single-family market, which has grown despite the 2001 terrorist attacks and a weak economic environment — comprising 62 percent of the state's construction activity, up from 56 percent a year ago.

The commercial sector improved slightly from last year's \$575 million (17 percent of total construction activity) to \$703 million (20 percent). Lacking any major projects such as Intel in Chandler that dominated the sector a year ago, industrial development slipped to less than 1 percent of Arizona's total construction activity.

Phoenix was the most active area of development, with nearly 16 percent of Arizona's construction market, while the 12 communities listed in Table 1 represented 73 percent. Other areas of significant development included El Mirage (\$79 million), Avondale (\$74 million), Glendale (\$56 million), Lake Havasu City (\$52 million), unincorporated Yavapai County (\$50 million), Marana (\$46 million), and Prescott (\$46 million).

RESIDENTIAL

The single-family housing market has

remained one of the last vestiges of the dynamic economy of the 1990s. In the wake of the volatile stock market, people have increasingly recognized that their homes are currently their best performing investment. This has led some to upgrade their own housing stock and others to invest in second and/or rental homes. This has been greatly facilitated by continued low mortgage rates.

Leading areas of single-family development in Maricopa County were Phoenix (1,838 permits), Gilbert (989), Chandler (892) and Mesa (888). The West Valley communities of Surprise (873), Avondale (450), El Mirage (708) and Goodyear (461) now account for 25 percent of the new home market.

The single-family housing market also showed strength in Pima County (see Table 2). Tucson authorized 664 homes; unincorporated Pima County, 754; Marana, 222; and Oro Valley, 119. The average permit value in Pima County increased from last year's \$148,140 to \$154,885; while in Maricopa County it rose from \$141,450 to \$152,615.

Pinal County (1,272 permits) accounted for 8 percent of the state's new home market, while Mohave (627) and Yavapai (612) each had 4 percent. In these counties the unincorporated areas are important markets, with 1,041 permits in unincorporated Pinal County, 261 in Yavapai and 143 in Mohave. Specific communities included Lake Havasu

City (332), Casa Grande (137), Prescott (183), and Yuma (154). Average permit values were \$195,250 in Prescott, \$183,090 in Sedona, \$129,360 in Flagstaff, \$118,500 in Casa Grande, and \$99,760 in Lake Havasu City.

COMMERCIAL

The primary commercial sectors showed improvement over the first quarter 2002, but only the apartment and retail sectors performed better than a year ago (see Table 2). The struggling economy and increased

TABLE 1
REPORTING UNITS WITH GREATEST TOTAL VALUE OF BUILDING PERMITS
Second Quarter 2002

Reporting Unit	Value (in millions)
Phoenix.....	\$551
Mesa.....	274
Unincorporated Maricopa County.....	264
Chandler.....	253
Gilbert.....	242
Unincorporated Pima County.....	198
Scottsdale.....	174
Tucson.....	173
Surprise.....	140
Unincorporated Pinal County.....	120
Peoria.....	97
Goodyear.....	95

Source: Arizona Real Estate Center, L. William Seidman Research Institute, College of Business, Arizona State University.

TABLE 2
KEY SECTOR CONSTRUCTION ACTIVITY
Second Quarter 2002, First Quarter 2002 and Second Quarter 2001

	COMMERCIAL									
	Single-family		Apartments ^a		Office Buildings ^b		Retail Stores ^c		Industrial	
	Number of Permits	Dollar Value (000)	Number of Permits	Dollar Value (000)	Number of Permits	Dollar Value (000)	Number of Permits	Dollar Value (000)	Number of Permits	Dollar Value (000)
MARICOPA COUNTY										
2nd Quarter 2002	9,880	\$1,507,846	2,041	\$127,080	76	\$94,131	165	\$131,294	30	\$12,686
1st Quarter 2001.....	7,980	1,225,456	1,006	59,087	93	88,644	115	103,589	36	34,993
2nd Quarter 2001	9,615	1,360,070	2,060	103,119	107	129,113	108	104,124	30	264,994
PIMA COUNTY										
2nd Quarter 2002	1,762	272,909	167	16,564	21	10,750	30	36,478	16	3,643
1st Quarter 2001.....	1,566	224,235	5	304	31	8,096	18	5,611	6	1,414
2nd Quarter 2001	1,655	245,172	8	516	23	7,671	18	6,994	3	13,846
REST OF ARIZONA										
2nd Quarter 2002	3,745	417,683	42	3,779	31	11,360	39	29,259	28	12,992
1st Quarter 2001.....	2,927	320,263	14	177	33	8,606	36	12,696	7	2,633
2nd Quarter 2001	3,006	330,373	97	2,003	38	9,144	42	16,713	22	11,139
ARIZONA TOTAL										
2nd Quarter 2002	15,387	2,198,438	2,250	147,423	128	116,241	234	197,031	74	29,321
1st Quarter 2001.....	12,473	1,769,954	1,025	59,568	157	105,346	169	121,896	49	39,040
2nd Quarter 2001	14,276	1,935,615	2,165	105,638	168	145,928	168	127,831	55	289,979

^a Five or more housing units ^b Office, bank, medical and professional buildings ^c Shopping centers and other mercantile buildings

Source: Arizona Real Estate Center, L. William Seidman Research Institute, College of Business, Arizona State University.

competition from new projects has resulted in higher vacancies and slower rent growth. Primary areas of office building development were Gilbert (\$29 million) and Mesa (\$24 million), while Phoenix reported only \$9 million. Even though Phoenix led with 595 units, much of the apartment activity was in relatively new areas such as Goodyear (197), unincorporated Maricopa County (286) and Peoria (372). Retail activity also improved, with \$36 million in Phoenix, \$20 million in Chandler, and \$19 million in Gilbert. Remodeling of existing space totaled \$36 million, with \$20 million in Scottsdale and \$8 million in Tempe. Permits for development of recreational facilities totaled \$78 million, with \$6.7 million in Mesa (Mesa Fine Arts Center) and \$11.9 million in Tempe (Life Time Fitness).

Commercial development did improve in Pima County and throughout the remainder of the state (see Table 2). Unincorporated Pima County authorized 153 apartment units and Prescott had 30 units. Unincorporated Pima County reported \$6.9 million in new office building activity and \$13 million for new retail development. Other active retail areas were Marana (\$11.9 million), Lake Havasu City (\$9.7 million), Tucson (\$9.6 million), and Apache Junction (\$8.5 million).

Commercial remodeling activity was strong in Tucson (\$43 million), unincorporated Pima County (\$7.4 million) and Flagstaff (\$2.8 million).

INDUSTRIAL AND OTHER

Industrial development once again slowed in Maricopa County from \$35 million in first quarter 2002 to \$12.7 million, with \$4.6 million

in Chandler and \$3.8 million in Phoenix. Outside Maricopa County, Flagstaff (\$6.5 million) was the most active area followed by Tucson (\$3 million) and Yuma \$2.1 million).

New religious facilities were strong in Paradise Valley (\$5.3 million) and Glendale (\$3.7 million). Construction of educational and public facilities slowed from \$74 million in first quarter 2002 to \$39 million.

LOOKING AHEAD

The Arizona construction industry definitely has benefited from a very strong single-family home market throughout the economic downturn and recovery from the traumatic events of last September. This pattern has been evident throughout the state as new markets have opened up and people have acquired second homes. The expansion of the housing market has been facilitated by low mortgage rates, and the rising housing values

have given people an investment alternative to the volatile stock market.

While the single-family market is an excellent economic vehicle, a healthy construction market must encompass more activity in the commercial and industrial sectors. A stronger economy will be necessary to improve non-residential activity, fostering job growth and economic confidence for expansion and leading to increased demand for space. Heightened demand will improve absorption, remove concessions and allow rents to rise. Only when the market for existing structures improves will new projects be economically justified and construction activity begin to improve. A diversified construction industry is important to the economic future of the state.

— Jay Q. Butler

Director

Arizona Real Estate Center

TABLE 3
ARIZONA HOUSING UNITS AUTHORIZED
Second Quarter 2002

	One Family	Mobile Homes	Duplex	3-4 Family	5 or More	Total
MARICOPA COUNTY.....	9,880	317	16	46	2,041	12,300
% Change, Previous Year	3	4	-56	-59	-1	1
% Change, Previous Quarter	24	12	-47	-45	103	31
PIMA COUNTY.....	1,762	293	36	6	167	2,264
% Change, Previous Year	3	-27	157	-82	1,988	5
% Change, Previous Quarter	13	83	-31	-67	3,240	26
REST OF ARIZONA	3,745	1,120	116	25	42	5,048
% Change, Previous Year	25	14	152	56	-57	22
% Change, Previous Quarter	28	20	53	-66	200	25
TOTAL, ARIZONA	15,387	1,730	168	77	2,250	19,612
% Change, Previous Year	7	3	75	-52	4	6
% Change, Previous Quarter	23	26	6	-56	120	29

TABLE 4
ARIZONA BUILDING PERMITS
Second Quarter 2002

	Residential*		Commercial		Industrial		Other		Total	
	Number of Permits	Dollar Value (000)	Number of Permits	Dollar Value (000)	Number of Permits	Dollar Value (000)	Number of Permits	Dollar Value (000)	Number of Permits	Dollar Value (000)
MARICOPA COUNTY.....	12,725	\$1,573,975	893	\$500,348	30	\$12,686	10,102	\$357,546	23,750	\$2,444,555
% Change, Previous Year	5	11	-1	4	0	-95	-8	-25	-1	-7
% Change, Previous Quarter	20	22	19	45	-17	-64	27	-1	23	20
PIMA COUNTY.....	3,032	289,370	297	120,301	16	3,643	1,797	27,815	5,142	441,129
% Change, Previous Year	6	10	1	206	433	-74	17	1	10	28
% Change, Previous Quarter	23	23	3	245	167	158	26	38	23	51
REST OF ARIZONA	7,142	488,562	450	82,081	28	12,992	2,332	53,722	9,952	637,357
% Change, Previous Year	20	26	27	47	27	17	17	33	19	29
% Change, Previous Quarter	22	29	5	25	300	393	18	5	20	28
TOTAL, ARIZONA	22,899	2,351,907	1,640	702,730	74	29,321	14,231	439,083	38,844	3,523,041
% Change, Previous Year	10	14	6	22	35	-90	-2	-19	5	1
% Change, Previous Quarter	21	24	12	58	51	-25	26	1	22	25

* Includes mobile homes

Source (Tables 3 and 4): Arizona Real Estate Center, L. William Seidman Research Institute, College of Business, Arizona State University.



AZB/ARIZONA BUSINESS

Larry Edward Penley, Dean
 Timothy D. Hogan, Center Director
 Nancy A. Maneely, Editor

AZB/ARIZONA BUSINESS (ISSN 1079-4255) is published monthly by the Center for Business Research, L. William Seidman Research Institute, College of Business, Arizona State University, PO Box 874011, Tempe, AZ 85287-4011; phone (480) 965-3961. Annual rate: \$24 per year to Arizona residents, \$30 per year out-of-state, \$36 per year foreign. Checks must be made payable to ASU Foundation, a separate non-profit organization which exists to support ASU. Your payment is not considered a charitable contribution. Fees will be applied to the printing and mailing of AZB/ARIZONA BUSINESS, which is not printed or mailed at state expense. Periodicals postage paid at Tempe, Arizona. POSTMASTER: Send change of address to AZB/ARIZONA BUSINESS, Center for Business Research, College of Business, Arizona State University, P.O. Box 874011, Tempe, AZ 85287-4011.

AZB/ARIZONA BUSINESS is also available online at:
www.cob.asu.edu/seid/cbr/

© 2002 Arizona Board of Regents for Arizona State University. Reprinting information contained in this publication requires the prior written permission of the Center for Business Research at the Seidman Research Institute, Arizona State University. Articles do not necessarily reflect the views of the Center, College, or University. Authors are solely responsible for the accuracy and content of their articles.

Arizona State University vigorously pursues affirmative action and equal opportunity in its employment activities and programs.

ARIZONA ECONOMIC INDICATORS

	Month or Quarter	Current Value	Previous Value	Percent Change Previous Period	Percent Change from Year Ago	Year-to-Date	
						Value	Percent Change from Year Ago
LEADING ECONOMIC INDEX (1987 = 100)							
Arizona	August	117.2	117.2	0.0	5.1	NA	NA
BUSINESS CONDITIONS INDEX							
Arizona	August	51.1	47.9	6.7	25.0	NA	NA
BUILDING PERMITS (Thousands of \$)							
Maricopa County	July	731,644	872,008	-16.1	-5.6	5,205,046	-14.0
Pima County	July	117,634	182,533 r	-35.6	-9.5	891,140	10.0
Balance of State	July	238,051	214,168	11.2	45.2	1,373,662	26.4
Arizona	July	1,087,329	1,268,709 r	-14.3	1.7	7,469,848	-6.0
TOTAL HOUSING UNITS AUTHORIZED							
Maricopa County	July	4,109	4,750	-13.5	13.1	25,793	-10.0
Pima County	July	655	755 r	-13.2	-6.0	5,003	-1.3
Balance of State	July	1,814	1,662	9.1	38.5	10,887	18.0
Arizona	July	6,578	7,167 r	-8.2	16.6	41,683	-2.9
HOME SALES							
Maricopa County - Number	July	10,190	9,650	5.6	-4.4	60,310	-0.7
Maricopa County - Median Price(\$)	July	145,000	143,900	0.8	4.3	142,000	4.4
HOUSING AFFORDABILITY INDEXES							
Metropolitan Phoenix - New Homes	2nd Quarter	114	108 r	5.6	7.5	NA	NA
Metropolitan Phoenix - Resale Homes	2nd Quarter	122	122 r	0.0	-0.8	NA	NA
MORTGAGE RATES (30-year Fixed)							
Maricopa County	August	6.0	6.2	-3.2	-10.4	NA	NA
POPULATION ESTIMATES (Thousands)							
Maricopa County	2nd Quarter	3,291	3,269	0.7	3.0	NA	NA
Pima County	2nd Quarter	884	881	0.3	1.8	NA	NA
Balance of State	2nd Quarter	1,295	1,286	0.7	2.9	NA	NA
Arizona	2nd Quarter	5,469	5,436	0.6	2.7	NA	NA
RETAIL SALES (Millions of \$)							
Maricopa County	July	2,315	2,566	-9.8	0.9	17,545	-0.7
Arizona	July	3,443	3,899	-11.7	0.9	25,972	0.7

Note: The above figures reflect the latest data available as of date of publication and are subject to revision.

NA = Not Applicable r = Revised

Source: Center for Business Research, Arizona Real Estate Center, and Bank One Economic Outlook Center, affiliates of the L. William Seidman Research Institute, College of Business, Arizona State University. Retail sales data are from the Arizona Department of Revenue.